

周报

工作

- 专著的校对
- 《中国计算机学会通信》阅读
- 文章阅读
- VIS投稿讨论（郭博，夏老师）
- Design Goals, Requirements, Tasks的文章应用

工作时长

周二，周三，周四，周五9:00左右-20:00左右

周六9:30-23:00

周日10:00-18:00

一周工作50个小时

文献阅读

- **动态图模式匹配技术综述**
 - 这篇介绍了一些动态图中模式匹配的概念，算法。对不同的算法进行了使用场景上的对比的综述。
 - [相关总结](#)
- **《中国计算机学会通信》5篇左右**
 - 大多数有点偏底层，可视化<-图算法<-图模式<-图硬件。有点这样的感觉。
 - [相关总结](#)
- **大规模时序图数据的查询处理与挖掘技术综述**
 - 这篇讲了下查询的与挖掘方面的算法，其实更重要的是动态图的任务，可视化应该针对于这些任务去做文章，往常静态图中的任务，例如，最短路径，最小生成树等都有成熟的算法和应用场景，但是动态图中，有了结构和内容的变化，更加贴合实际，有许多现实意义上的pattern和任务，这些任务有可组合性，很适合应用可视化去做探索。
- Design Goals, Requirements, Tasks的文章应用
 - **StreamExplorer: A Multi-Stage System for Visually Exploring Events in Social Streams**，这篇设计了三类设计需求：Tracking, Exploration, Comparison。每个下面有1-2两点小需求，更细节一点，功能+具体目标+针对性数据或场景，例如
 - Highlighting critical periods from a live social stream.
 - Summarizing a large volume of microblog messages
 - Showing dynamic topical and geospatial changes

最后的Tasks是根据每个小需求去设置（1对1）

- **ForVizor: Visualizing Spatio-Temporal Team Formations in Soccer**，这篇有Requirement Analysis和Design Goals，一对一，Requirements是问句开始，针对于数据和场景提了一个具体的问题，而design goals更抽象。

- Narrative
- Spatio-temporal representation
- Visual connection
- Context-preserving
- Intuitive glyphs

evaluation是case study

- **HomeFinder Revisited: Finding Ideal Homes with Reachability-Centric Multi-Criteria Decision Making**。这篇是一个特定需求的一个系统，对于系统的4个需求，每个需求一个task，这个task是比较细的，功能+名词+形容。evaluation中覆盖了所有的任务

- Refine reachability constraints iteratively
- Filter and rank candidates effectively

E1	Leave home at 7 a.m. and arrive at place A at 8 on weekdays. How many candidates are left?	T.1
E2	Observe the heatmap. Is it possible to reach place A in time from candidates B, C, or D? Which one has the highest reachable probability?	T.2
E3	Increase the reachability threshold. Which one in B, C, and D has the highest reachable probability?	T.2, T.3
■ E4	Add an intermediate node for schools. Compare the results of 3 regions of schools X, Y, and Z. Which one leads to the largest number of candidates?	T.3
E5	Find in the result of each region the top candidate with price lower than 5 million and with 2 bedrooms ranked by floor size. Which region leads to the best candidate?	T.4

Table 1. Evaluation tasks and questions.

P1	Is the interface of ReACH intuitive and easy to use?
P2	Is the workflow of ReACH easy to learn?
P3	Does ReACH correctly reflect the needs in finding ideal homes?
P4	Is the generated reachable region reasonable?
P5	Does the timeline view help you filter candidates with reachability based on daily routines effectively?
P6	Is the timeline view intuitive and easy to use?
P7	Does the map view help you compare the reachability clearly?
P8	Does the ranking view help you filter and rank candidates based on requirements effectively?
P9	Is the ranking view intuitive and easy to use?
P10	Does the wishlist view help you in the comparisons of candidates?
P11	Is the wishlist view intuitive and easy to use?

Table 2. Post-study questionnaire.

- **LoyalTracker: Visualizing Loyalty Dynamics in Search Engines** 这篇是design goals抽象出来的那种，比较通用。

- User Flow Revelation
- Intuitive Storytelling Metaphor
- Multi-Scale Visual Representation
- Interactive Pattern Unfolding
- Comparative Analysis

- 总结

- Requirements可以没有，在特定数据系统（更专业）的时候有，是更细的。即使没有，也一般都会在每个design goals 和 tasks中讲两句，来引导goal和task。
- Design goals是抽象的，可以从中总结出常用的词，针对于Requirements提出的。
- Tasks有的抽象，有的细，和design goals很像。
- 如果有user study要覆盖所有的goals和tasks，以验证系统有效性。